

IN THE CLAIMS:

1. (Currently Amended) A method for use in a wavetable based sound synthesis for which encoded wavetable data is encoded either independently or not with respect to neighborhood frames and is decoded by means of an audio decoder on a frame-by-frame basis, each frame comprising at least one sample, wherein said encoded wavetable data comprises samples in an attack section and samples in a loop section, which samples of said loop section are reuseable for a playback in a loop as often as required, said method comprising:
  - a) decoding consecutive frames of said encoded wavetable data comprising samples in an attack section and samples in a loop section starting with a first frame up to a frame which includes a start of said loop section which samples of said loop section are reuseable for a playback in a loop as often as required;
  - b) saving an internal state of said audio decoder before starting to decode said frame including the start of said loop section ~~wherein interdependence between said neighborhood frames is reflected together with other control information in a number of variables that constitute said internal state of said audio decoder~~;
  - c) decoding subsequently all frames comprising samples of said loop section and providing said decoded frames for further processing for a playback; and
  - d) at least if said samples of said loop section are distributed to more than one frame, restoring said internal state of said audio decoder, saved at step b), and continuing with step c) as often as required.
2. (Original) The method according to claim 1, wherein each decoded frame is stored for said further processing by substituting a preceding frame in a storage component, and wherein a respective next frame is only decoded at a time when samples of a further frame are needed.
3. (Currently Amended) A device comprising:  
an audio decoder for receiving wavetable data ~~encoded either independently or not with respect to neighborhood frames for decoding said data~~ on a frame-by-frame basis,

each frame comprising at least one sample, wherein said encoded wavetable data comprises samples in an attack section and samples in a loop section, which samples of said loop section are reuseable for a playback in a loop as often as required;

a storage component for saving an internal state of said audio decoder ~~wherein interdependence between neighborhood frames is reflected together with other control information in a number of variables that constitute said internal state of said audio decoder~~; and

a controller, which controller causes said audio decoder to save said internal state of said audio decoder into said storage component before decoding a next frame, if said next frame includes a start of a loop section, which controller causes said audio decoder to decode subsequently all frames comprising samples of said loop section and to provide said decoded frames for further processing for a playback, and which controller causes said audio decoder as often as required to restore said internal state saved in said storage component and to repeat decoding subsequently all frames comprising said samples of said loop section.

4. (Original) The device according to claim 3, further comprising a second storage component for storing the respective last decoded frame provided by said audio decoder and for providing samples of a respectively stored frame for further processing for a playback.

5. (Currently Amended) A wavetable based sound synthesis system comprising:

an audio encoder for encoding wavetable data on a frame-by-frame basis ~~either independently or not with respect to neighborhood frames~~ and for providing resulting encoded wavetable data;

an audio decoder decoding wavetable data provided by said first storage component on a frame-by-frame basis, each frame comprising at least one sample, wherein said encoded wavetable data comprises samples in an attack section and samples in a loop section, which samples of said loop section are reuseable for a playback in a loop as often as required;

a second storage component for saving an internal state of said audio decoder ~~wherein interdependence between neighborhood frames is reflected together with other~~

~~control information in a number of variables that constitute said internal state of said audio decoder; and~~

a controller, which controller causes said audio decoder to save said internal state of said audio decoder into said second storage component before decoding a next frame, if said next frame includes a start of a loop section, which controller causes said audio decoder to decode subsequently all frames comprising samples of said loop section and to provide said decoded frames for further processing for a playback, and which controller causes said audio decoder as often as required to restore said internal state saved in said storage component and to repeat decoding subsequently all frames comprising said samples of said loop section.

6. (Currently Amended) A software program product in which a software code for supporting a wavetable based sound synthesis is stored, for which wavetable based sound synthesis encoded wavetable data is decoded by means of an audio decoder on a frame-by-frame basis, ~~said encoded wavetable data encoded either independently or not with respect to neighborhood frames,~~ each frame comprising at least one sample, wherein said encoded wavetable data comprises samples in an attack section and samples in a loop section, which samples of said loop section are reuseable for a playback in a loop as often as required, said software code realizing the following when running in a processing component which is connected to said audio decoder:

causing said audio decoder to save an internal state of said audio decoder before decoding a next frame, if said next frame includes a start of a loop section ~~wherein interdependence between neighborhood frames is reflected together with other control information in a number of variables that constitute said internal state of said audio decoder;~~

causing said audio decoder to decode subsequently all frames comprising samples of said loop section and to provide said decoded frames for further processing for a playback; and

causing said audio decoder as often as required to restore said saved internal state and to repeat decoding subsequently all frames comprising said samples of said loop section.

Claims 7 – 15 (Cancelled)

16. (New) The method of claim 1, wherein said wavetable data is encoded either independently or not with respect to neighborhood frames wherein interdependence between said neighborhood frames is reflected together with other control information in a number of variables that constitute said internal state of said audio decoder.
17. (New) The method of claim 16, wherein said internal state of said audio decoder keeps track of a correlation between samples.
18. (New) The method of claim 17, wherein said decoding is a decoding of one sample at a time and said decoded frames depend not only on an encoded input sample value but also on said internal state of said decoder.
19. (New) The method of claim 18, wherein said frames have a length of only one sample.
20. (New) The method of claim 1, wherein said internal state of said audio decoder keeps track of a correlation between samples.
21. (New) The method of claim 20, wherein said decoding is a decoding of one sample at a time and said decoded frames depend not only on an encoded input sample value but also on said internal state of said decoder.
22. (New) The method of claim 21, wherein said frames have a length of only one sample.
23. (New) The device of claim 3, wherein said wavetable data is encoded either independently or not with respect to neighborhood frames wherein interdependence between said neighborhood frames is reflected together with other control information in a number of variables that constitute said internal state of said audio decoder.

24. (New) The device of claim 23, wherein said internal state of said audio decoder keeps track of a correlation between samples.
25. (New) The device of claim 24, wherein said decoding is a decoding of one sample at a time and said decoded frames depend not only on an encoded input sample value but also on said internal state of said decoder.
26. (New) The device of claim 25, wherein said frames have a length of only one sample.
27. (New) The device of claim 3, wherein said internal state of said audio decoder keeps track of a correlation between samples.
28. (New) The device of claim 27, wherein said decoding is a decoding of one sample at a time and said decoded frames depend not only on an encoded input sample value but also on said internal state of said decoder.
29. (New) The device of claim 23, wherein said frames have a length of only one sample.
30. (New) The method of claim 1, wherein said internal state of said audio decoder evolves during the decoding process so that the internal state of the audio decoder at the end of the loop is different from its state at the beginning of the loop.
31. (New) the device of claim 3, wherein said internal state of said audio decoder evolves during the decoding process so that the internal state of the audio decoder at the end of the loop is different from its state at the beginning of the loop.
32. (New) the system of claim 5, wherein said internal state of said audio decoder evolves during the decoding process so that the internal state of the audio decoder at the end of the loop is different from its state at the beginning of the loop.

33. (New) The software program product of claim 6, wherein said internal state of said audio decoder evolves during the decoding process so that the internal state of the audio decoder at the end of the loop is different from its state at the beginning of the loop.